Listing of Claims:

1.   **(Currently Amended)** In a system where a separate expert system is configured to communicates with a clinical system ~~with~~ having one or more clinical modules, and notwithstanding that the separate expert system and the clinical system are configured to process data having different and otherwise incompatible data formats, a method of interfacing the separate expert system with the clinical system, the method comprising:

receiving clinical data from the clinical system on at least one of an inbound data interface and a synchronous alert interface, the clinical data having a first format structured for compatible processing at the clinical system;

modifying the structure of clinical data to a second different format structured for compatible processing at the separate expert system such that the clinical data can be compatibly processed at the separate expert system, wherein without the structural modification of the clinical data the separate expert system is unable to compatibly process the clinical data;

storing the modified clinical data in an expert system database of the expert system in the second different format;

processing the modified clinical data in the expert system to make a medical decision;

generating an alert based on results of processing the modified clinical data, the alerts having the second different data format structured for compatible processing at the separate expert system; ~~and~~

modifying the structure of generated alerts to the first format such that the generated alerts can be compatible processed at the clinical system, wherein without the

structural modification of the generated alerts the clinical system is unable to compatibly

process the alerts; and

        sending the modified generated alert to the clinical system on at least one of a the

synchronous alert interface and an the outbound alert interface.

2.   **(Original)**   The method of claim 1, further comprising:

        receiving audit information on an audit action interface from the clinical system

when the alert has been dismissed at the clinical system; and

        updating an audit log in the expert system.

3.   **(Original)**   The method of claim 1, further comprising:

        receiving a request on at least one of a synchronous alert interface and an inbound

application interface from the clinical system for access to the expert system;

        displaying the alert from the expert system at the clinical system;

        at the expert system, receiving an update of clinical data on at least one of a

synchronous alert interface, an inbound application interface and an inbound data

interface from a user at the clinical system;

        sending the update of clinical data to the clinical system using at least one of the

synchronous alert interface and the outbound data interface.

4.   **(Original)**   The method of claim 3, further comprising updating an audit log at

the expert system.

5.   **(Original)**   The method of claim 3, further comprising:

at the expert system, receiving an order; and

sending the order to a clinical module.

6.   **(Original)**   The method of claim 5, further comprising updating an audit log at the expert system.

7.   **(Original)**   The method of claim 1, wherein sending the alert to the clinical system comprises pushing the alert from the expert system.

8.   **(Original)**   The method of claim 1, wherein sending the alert to the clinical system comprises:

receiving a request or query from the clinical system; and

sending the alert to the clinical system in response to the request or query.

9.   **(Original)**   The method of claim 1, wherein the alert comprises data elements, the method further comprising attaching standard identifiers to at least a portion of the data elements.

10.   **(Original)**   The method of claim 1, further comprising structuring messages comprising the alert according to proprietary message definitions.

11.   **(Original)**   The method of claim 1, further comprising structuring messages comprising the alert according to industry standard message definitions.

12.   **(Original)**   The method of claim 11, further comprising structuring messages comprising the alert according HL7 protocol.

13.   **(Original)**   The method of claim 1, wherein receiving clinical data from the clinical system comprises receiving clinical data from an interface engine disposed on a clinical module within the clinical system.

14.   **(Original)**   A computer readable medium having computer executable instructions for performing the steps of claim 1.

15.   **(Currently Amended)**   At an expert system separate from a clinical system and configured to communicate with the clinical system, a method of providing clinical decision support, notwithstanding that the separate expert system and the clinical system are configured to process data having different and otherwise incompatible data formats, the method comprising:

receiving an order on at least one of a synchronous alert interface and an inbound data interface, from the clinical system, the order having a first format structured for compatible processing at the clinical system;

modifying the structure of the order to a second different format structured for compatible processing at the separate expert system such that the order can be compatibly processed at the separate expert system, wherein without the structural modification of the order the separate expert system is unable to compatibly process the order;

processing the modified order to generate a response to the order, the response having the second different data format structured for compatible processing at the separate expert system; and

modifying the structure of the response to the first format such that the response can be compatible processed at the clinical system, wherein without the structural modification of the response the clinical system is unable to compatibly process the response; and

sending the modified response to the clinical system on at least one of a the synchronous alert interface, an outbound data interface and an outbound orders interface.

16.   **(Original)**   The method of claim 15, wherein the response is an alert, the method further comprising:

receiving audit information from the clinical system on at least one of a inbound audit interface, inbound data interface and an audit action alert interface when the alert has been dismissed at the clinical system; and

updating an audit log in the expert system.

17.   **(Original)** The method of claim 15, wherein the response is an alert, the method further comprising:

receiving audit information from the clinical system on at least one of a inbound audit interface, inbound data interface and an audit action alert interface when the alert results in an addition or change to the orders at the clinical system; and

updating an audit log in the expert system.

18.   **(Original)** The method of claim 15, wherein the order comprises data elements, the method further comprising assigning standard identifiers to at least a portion of the data elements.

19.   **(Original)** The method of claim 15, further comprising structuring messages comprising the response according to proprietary message definitions.

20.   **(Original)** The method of claim 15, further comprising structuring messages comprising the response according to industry standard message definitions.

21.   **(Original)**   The method of claim 20, further comprising structuring messages comprising the response according to HL7 protocol.

22.   **(Original)**   A computer readable medium having computer executable instruction for performing the steps of claim 15.

23.   **(Currently Amended)**   At an expert system separate from a clinical system and configured to communicate with the clinical system, a method of providing clinical decision support, notwithstanding that the separate expert system and the clinical system are configured to process data having different and otherwise incompatible data formats, the method comprising:

allowing access to an expert system user interface;

providing an element in the expert system user interface for selecting at least one patient from patients in a clinical system;

generating a patient specific recommendation;

receiving orders from a user accessing the expert system user interface, the order having a first format structured for compatible processing at the expert system; and

processing the order to generate a response to the order, the response having the first data format structured for compatible processing at the separate expert system;

modifying the structure of the response to a second different format such that the response can be compatible processed at the clinical system, wherein without the structural modification of the response the clinical system is unable to compatibly process the response; and

sending the modified orders response to a the clinical system on at least one of a the synchronous alert interface, an outbound data interface and an outbound orders interface.

24.   **(Original)**   The method of claim 23, further comprising:

receiving updates to clinical data from a user accessing the expert system user interface; and

sending the updates to the clinical system on an outbound data interface.

25.   **(Original)**   The method of claim 24, wherein sending the updates to the clinical system comprises sending the updates directly to a clinical module within the clinical system.

26.   **(Original)**   The method of claim 24, wherein sending the updates comprises sending the updates to a clinical system interface engine for delivery to a clinical module within the clinical system.

27.   **(Original)**   The method of claim 23, wherein providing comprises providing an element in the expert system user interface for selecting at least one patient from at least one of a list of patients, an alert or a query.

28.   **(Original)**   The method of claim 23, further comprising structuring messages comprising the orders according to proprietary message definitions.

29.   **(Original)**   The method of claim 23, further comprising structuring messages comprising the orders according to industry standard message definitions.

30.   **(Original)**   The method of claim 29, further comprising structuring messages comprising the orders according to HL7 protocol.

31.   **(Currently Amended)**   An expert system <u>configured to communicate with a</u> <u>clinical system having one or more clinical modules, the separate expert system and the clinical</u> <u>system being configured to process data having different and otherwise incompatible data</u> <u>formats, the system</u> comprising:

an expert system database adapted to store clinical data <u>in a first format</u>;

a clinical decision module coupled to the expert system database and adapted to generate alerts from the clinical data in the expert system database;

an expert system interface engine coupled to the expert system database, the expert system interface engine adapted to send and receive clinical data including the alerts to and from a clinical system that is separate from the expert system<u>, including:</u>

<u>modifying the structure of clinical data in a first format to a second</u> <u>different format structured for compatible processing at the separate expert system</u> <u>such that the clinical data can be compatibly processed at the separate expert</u> <u>system, wherein without the structural modification of the clinical data the</u> <u>separate expert system is unable to compatibly process the clinical data; and</u>

<u>modifying the structure of generated alerts of the expert system in the</u> <u>second different format to the first format such that the generated alerts can be</u> <u>compatible processed at the clinical system, wherein without the structural</u> <u>modification of the generated alerts the clinical system is unable to compatibly</u> <u>process the alerts.</u>

~~using at least one of a synchronous alert interface, an outbound alert interface, an~~ ~~inbound alert interface, an inbound data interface, an outbound data interface, an~~ ~~outbound orders interface and an audit action interface.~~

32. **(Original)** The expert system of claim 31, further comprising an expert system interface coupled to the expert system database and the expert system interface engine, the expert system user interface being displayable at a clinical system user interface.